

# Closing the College Affordability Gap

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A report for The Institute for College Access and Success (TICAS) authored by Donald E. Heller.

## Introduction

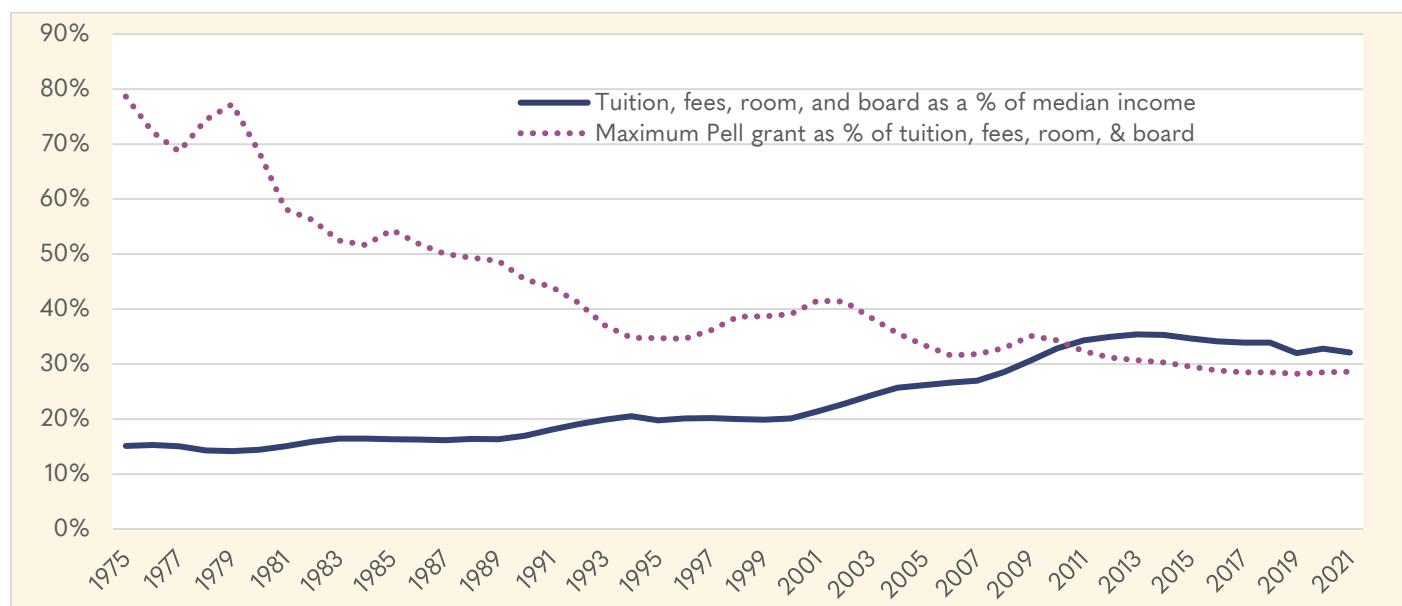
The role that finances play as a barrier to student college enrollment, persistence, and degree completion has been well documented. As the price of college has risen faster than the rate of inflation—and more importantly, the growth in family incomes—the potential financial barriers to college attendance have received much attention in the press, among academic researchers, and among policymakers.

Figure 1 presents two measures of college affordability. The first is the burden of paying in-state undergraduate tuition, fees, room, and board at the average public, four-year institution in the nation on the median income household in the country over approximately the last five decades.<sup>1</sup> In 1975, it took 15 percent of the median household's income to pay for the cost of college for a year. By 2012, this ratio reached a high of 35 percent, with a slight decline to 32 percent in the most recent year, 2021, for which data are available.

Examining families at the median, however, masks the role that growing income inequality plays in our country. Wealthier families have seen their incomes grow at a much faster rate than families from low-income backgrounds. From 1975 to 2021, the bottom quintile of families, those making below \$28,000 in 2021, saw their incomes grow 22 percent in real (inflation-adjusted) dollars (U.S. Census Bureau, 2023a). The wealthiest 5 percent of families, in contrast, saw their incomes almost double, growing 94 percent during this same period. Thus, the burden of the growing price of college has fallen disproportionately on families with low incomes.

Income and wealth are highly correlated with race and Latina/o origin in the nation. In 2021, the median income for white, non-Latina/o households was \$77,999 and for Asian-American households it was \$101,418. The median income of Black and Latina/o households, in contrast, were only \$48,297 and \$57,981, respectively. Thus, the growing burden of paying for college that low-income families experience is also felt by Black and Latina/o households, on average (U.S. Census Bureau, 2023b).

**Figure 1: Two Measures of College Affordability**



Sources: Author's calculations from Ma and Pender (2022) and U.S. Census Bureau (2023b)

The second metric in Figure 1 demonstrates the role that federal financial aid plays in helping students pay for college. Since the 1972 amendments to the Higher Education Act of 1965, the federal Pell Grant has been the primary source of grant aid for students from families from and low- to moderate-income backgrounds across the country. In the 2021-22 academic year, over \$25 billion in Pell Grants were awarded to 6.1 million students, or 30 percent of all undergraduates.

In 1975, students receiving the maximum Pell award would have almost 80 percent of their college costs covered if they attended a public, four-year institution. By 2021, this had fallen to 29 percent of the costs. This has made students more reliant on grant aid from other sources, such as the states and higher education institutions themselves, as well as on student loans (Heller, 2011).

Students from lower-income backgrounds and students of color are the groups most reliant on Pell Grants. A recent TICAS (2022) report indicated that 80 percent of Pell Grants go to students from families earning at or below \$40,000 annually. In addition, the report stated that, "Nearly 60 percent of Black students, half of American Indian or Alaska Native students, almost half of Hispanic or Latino students, and over one third of Native Hawaiian/other Pacific Islander students rely on Pell Grants to attend and complete college."

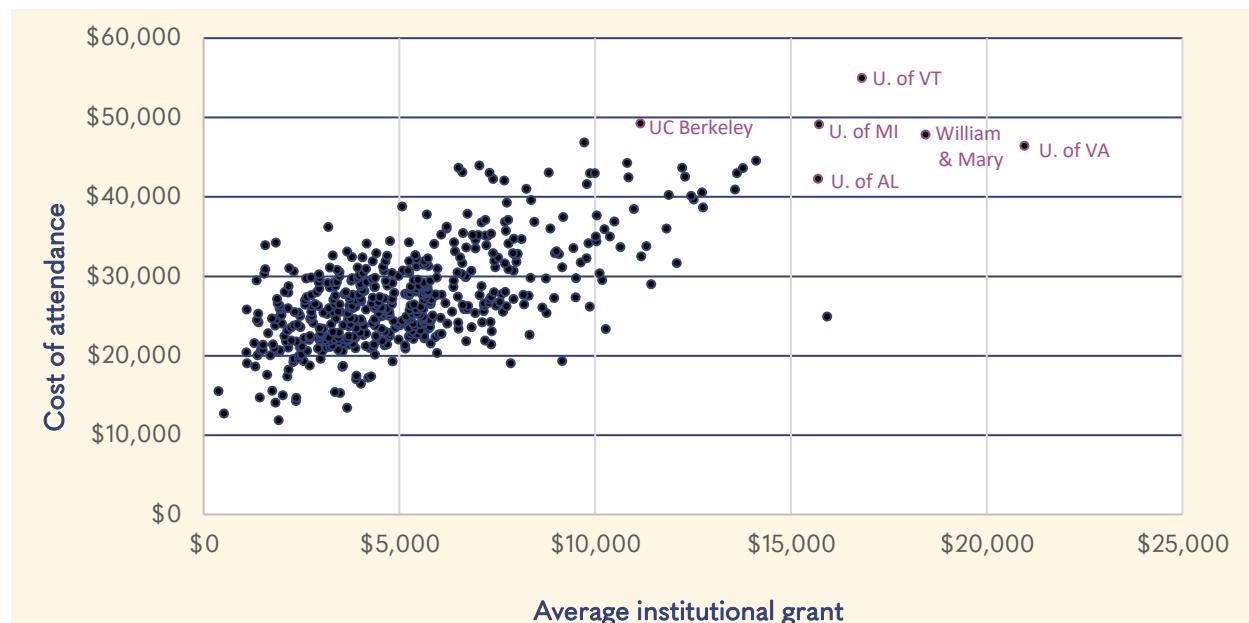
While the federal government is the major provider of student aid, the states also provide financial aid as well as direct appropriations to higher education institutions. Appropriations to public institutions by the states were battered in the wake of the 2008 recession, with the impact caused both by sharp declines in state budgets as well as increasing enrollment in public institutions. Both of these are effects are typically seen in recessions, as declining tax revenues cause state budgets to grow more slowly than in more prosperous times or even shrink, and many students decide to go to college as job opportunities dry up.

Over the five years from 2008 to 2013, state appropriations on a per-student basis fell 22 percent nationally in real (inflation-adjusted) dollars, from \$9,934 per student to \$7,754 (State Higher Education Executive Officers Association, (2023). Even in 2022 (the most recent data available), appropriations per student were still below the level from two decades earlier.

Every state and the District of Columbia offer some form of grant program, but the size and nature of these programs vary widely. The National Association of State Student Grant and Aid Programs (2023b) conducts an annual survey, including a measure of how much each state spends per capita. In the decade between the 2010-11 and 2020-21 academic years, overall state spending on grant aid increased 38 percent, from \$9.1 billion to \$12.6 billion. In the 2020-21 academic year, South Carolina was the most generous state, spending \$85.41 per capita on its state grant programs. At the other end of the scale, Montana spent less than 1 percent of South Carolina's expenditures, or only \$0.67 per capita.

Colleges and universities are also quite varied in how much grant aid they provide to their students.<sup>2</sup> Institutional grant aid has been a fast-growing source of support for students in public four-year universities. In the 15 years from the 2005-06 to 2020-21 academic years, institutional grants to all students at these institutions increased 233 percent, from \$6.4 billion to \$21.4 billion (National Center for Education Statistics, 2023b).<sup>3</sup> This increase far outpaced the 84 percent increase in the average price of tuition, fees, and room and board at public, four-year colleges and universities during this period (Ma and Pender, 2022).

**Figure 2: Enrollment-Weighted Cost of Attendance and Average Institutional Grant Aid for First-Year, Full-Time Students in Public Four-Year Institutions, 2020-21**



Source: Author's calculations from National Center for Education Statistics (2023b)

Figure 2 shows the cost of attendance (weighted by the enrolled mix of in-state and out-of-state students, and the differential tuition rates they pay) and the average institutional grant award to first-year, full-time students at public, four-year institutions in the country, in the 2020-21 academic year. Some of the outlying institutions with the highest prices and highest grant awards are noted, and tend to be the flagship institution in each state.

As the chart demonstrates, there is a strong relationship between the price of the institution and how much grant aid it offers, on average, with more expensive institutions offering larger grants.<sup>4</sup> But the range of the proportion of the cost of attendance covered by institutional grants is quite large, from a low of 3 percent to a high of 64 percent.

In addition to a wide range in the size of the grants awarded to students, there are also variations across public, four-year colleges and universities in the proportion of students who are awarded institutional grants. The median institution provided grants to 58 percent of first-year, full-time students, while 25 percent of institutions awarded grants to fewer than 31 percent of students, and 25 percent awarded grants to more than 76 percent of their students (National Center for Education Statistics, 2023b).

In spite of the promising upward trends in both state and institutional grant aid, most students continue to fill the gap they face in paying for college by taking out student loans. Student debt has received much attention in the media and among presidential and Congressional candidates. When cumulative student loan indebtedness exceeded that of credit card balances, and then breached the \$1 trillion threshold a decade ago, there was a surfeit of stories in the news and proposals for addressing the burden this debt was placing on the tens of millions of individuals holding it.

But most of these stories and proposals ignore that much of the increase in student loan borrowing and subsequent indebtedness has been due to borrowing by graduate students, not undergraduates seeking their first postsecondary credential. Data from the College Board show that in the first two decades of this

century, total borrowing by undergraduates in the federal student loan programs increased only 9 percent in real dollars (Ma and Pender, 2022).

Even if you include private loans, undergraduate borrowing increased only 17 percent during this period. In contrast, graduate student borrowing more than doubled, growing 120 percent in real terms, during these two decades. And much of graduate student borrowing occurs at private institutions and is used for expenses beyond tuition, such as living expenses.

However, much of the slowdown in the overall growth in student loan borrowing in recent years has been because of declining enrollments. After reaching a peak of just over 18 million undergraduate students in 2010, in the aftermath of the recession that started in 2008, enrollment has fallen 15 percent in the subsequent decade (National Center for Education Statistics, 2023a).

Some of this decline was due to the COVID-19 pandemic, as described later in the report, but this downward trend started before COVID and was due to other factors including a strengthening job market coming out of the 2008 recession and large declines in enrollments at for-profit colleges.

There has continued to be slow growth in the average amount of student loan debt that baccalaureate graduates have incurred. Another TICAS report (The Institute for College Access and Success, 2021) found that:

After increasing at an average of 4 percent per year between 1996 and 2012, the average debt level among all bachelor's degree earners from public and non-profit institutions plateaued in 2016 at \$29,650, just \$250 more than in 2012. More recent data suggest that the average debt level continued to remain essentially flat from 2016 to 2019. The class of 2019's average debt landed at \$28,950, which was 0.9 percent below the 2018 average, and the 2018 debt level was only 2 percent higher than the 2017 average (p. 7).

Much has been written about students who borrow as much as or even over \$100,000 to earn a bachelor's degree, with few prospects to be able to pay the sum back and live a lifestyle that one would expect as a college graduate—buy a car, own a home, start a family, etc.<sup>5</sup> The fact is that a tiny percentage of all graduating students take out this level of loans. In the graduating class of 2012, fewer than 1 percent of seniors left college with over \$100,000 in student loan debt; fewer than 10 percent had in excess of \$50,000 in debt (Heller, 2015).

And as the TICAS report described above documented, the debt of graduating seniors has grown little since that time. It is important to note that for many students, their borrowing is constrained by the limits established in the federal loan programs, which have not kept pace with the growth in the cost of attendance. If federal loan limits had increased, it is likely that we would have seen a larger increase in the average amount borrowed by students. Some of this gap between loan limits and increases in the cost of attendance is filled by federal Parent PLUS loans.

Notwithstanding the occasional misleading rhetoric, we should be concerned about students who take on excess levels of debt that can impact their post-collegiate decisions and lifestyle choices. Even if these former students are keeping up with their monthly student loan payments, they may face difficult choices in allocating their income between loan payments and other needs, particularly if they are in relatively low-paying—yet still socially valuable—careers.

There is also great concern for those students who enter college but never earn a credential (certificate, associate's, or bachelor's degree) and leave with accumulated debt but little or no benefit from their postsecondary training from a labor market perspective. It is these former students (some who are

momentarily stopping out and others who have no plans to return) who are most likely to fall into the roughly one-quarter of all student loan borrowers who default on their loans at some point in their lifetimes. And these students tend to be disproportionately students of color.

A report from the Federal Reserve Bank of New York looked at the relationship between student loan default rates and the amount borrowed (Brown, Haughwout, Lee, Scally, and van der Klaauw, 2015). What the authors found was that it was the students who borrowed the *least* who were most likely to default, not the ones who borrowed the most. Students no longer enrolled and who borrowed between \$1,000 and \$5,000 had a 21 percent default rate, while those with balances above \$100,000 had only a 3 percent default rate.

It is these borrowers with low balances who were most likely to have attended college for a short time, and then left without earning a degree or certificate, and many of them were enrolled in for-profit colleges. While almost every student starts college with the intent of earning a credential of some type, borrower protections should be put in place for those who have to stop out or discontinue their studies altogether. The best way to do this, in addition to doing all we can to hold down the growth in the price of college, is to ensure that there is sufficient grant aid for those who most need it to enroll in college and persist through to earn a credential once there.

### Measuring the College Affordability Gap

Grant aid, whether it be from the federal government, state governments, institutions, or even private sources, can help close the gap for students between what it costs to attend college and the resources available to them from their own and their families' incomes and wealth (Nguyen, Kramer, and Evans, 2019).

To measure whether this grant aid is sufficient to help close that gap, this report examines the costs to attend college and the net prices—after grant aid—students are facing. The focus of the report is on two groups: 1) those who experience the most financial need, from the families with the lowest incomes, and qualify for the maximum federal Pell Grant; and 2) those who come from families with more, yet modest, resources, and still qualify for a Pell Grant but not at the maximum level.

The college affordability gap used here is defined as:

$$\text{CAG} = \text{COA} - (\text{EFC/SAI} + \text{grants} + \text{work})$$

**COA** = estimated cost of attendance (the sum of in-state tuition, required fees, room, board, books, and other expenses)

**EFC** = an estimated expected family contribution (the Student Aid Index will replace the EFC in the 2024-2025 academic year)

**Grants** = sum of all federal, state, local, and institutional grant aid

**Work** = estimate of student earnings from a reasonable expectation of work during the school year and summer, i.e., part-time work that does not interfere with the student's academic progress (described in more detail below)

Ideally, the CAG for a student with high financial need would be zero—the combination of her own and her family's resources, as determined by the EFC calculations, plus awarded grant aid and a reasonable amount of work earnings, would be sufficient to meet the total cost of attendance.

It should also be noted that there have been criticisms of the EFC (and similarly, the upcoming SAI) as being unrealistic for some students, that the federal formula used to calculate EFC does not accurately take into account the true nature of what students and families can actually afford to contribute to the price of their education (Levine and Desjean, 2023). Nevertheless, because the federal financial aid regulations do assume that students and families will contribute to the price of their education, and have a formula to calculate that amount, it is used here in this report. If students are not able to come up with their calculated EFC, they often fill the gap with additional loans.

To examine whether students are facing a gap, data from public institutions in three states were analyzed: California, Michigan, and New York.<sup>6</sup> California and New York are both fairly generous with their state financial aid programs, in the top one-third of all states in the ranking of financial aid spending per capita. Michigan is less generous, ranking 41st. All three states provide almost exclusively need-based state grants (as opposed to non-need aid awarded based on academic merit), with over 99 percent of their grant dollars awarded with means-tested criteria.

Both public, four-year universities and community colleges were included in the analyses. The most recent data available cover the 2020-21 academic year, which was anomalous due to the COVID-19 pandemic. There were large drops in first-year student enrollment reported nationwide in both the public, four-year and community college sectors that year.

Enrollment of first-year students in public, four-year universities declined 10.5 percent in the fall of 2020 compared to the prior year, in contrast to a 2.0 percent drop in the fall of 2019 (National Student Clearinghouse, 2023b). Enrollment of first-year students in community colleges dropped even more precipitously, 18.9 percent, as compared to 1.0 percent in the prior year. Thus, because of these large changes caused in great part by the pandemic, data from both the 2019-20 and 2020-21 years were analyzed.<sup>7</sup>

The universe of students included in the National Center for Education Statistics (NCES) data on student financing includes those students who were awarded some form of financial aid from the federal government, including grants, loans, and/or work study, with the detailed data on grants and net price restricted to those students who were residents of the state in which they attended college, i.e., they were paying an in-state tuition rate. The NCES data are reported for students in five income categories, based on their own income (if they are independent students) or a combination of their and their parents' income (if they are dependent students):

1. Less than or equal to \$30,000
2. \$30,001 to \$48,000
3. \$48,001 to \$75,000
4. \$75,001 to \$110,000
5. Greater than \$110,000

Students in the first three categories were used in this report. Students in the first group were considered to be those with an EFC of approximately zero (meaning that they and their families were not expected to contribute to the cost of their education) and therefore eligible for the maximum Pell Grant, which was \$7,110 in 2019-20 and \$7,190 in 2020-21. Students in the second and third groups were considered to be eligible for a Pell Grant, but less than the maximum grant, and had sufficient resources to be able to contribute a modest amount of EFC.<sup>8</sup>

To estimate the amount that a student could earn in a year, I took each state's statewide minimum wage in each of the two years (based on January 1, 2020 and January 1, 2021, respectively), and assumed that students could work 10 hours/week at that wage for 30 weeks of an academic year, plus 35 hours/week for

12 weeks in the summer, or a total of 720 hours each year (U.S. Department of Labor, 2023). Ten hours of work during the academic year was chosen because many research studies have demonstrated that excessive work hours during the academic year can interfere with student's ability to maintain satisfactory academic progress toward their degrees.<sup>9</sup>

Table 1a displays the average values of the components that make up the college affordability gap for each of the three states and two sectors in each. The average college affordability gap students faced ranged from a low of \$3,318 for students in public, four-year universities in California, to a high of \$7,254 for students in that same sector in New York. It is important to note that these estimates assume students attend college full time.

**Table 1a: College Affordability Gap Component Averages for Maximum Pell Grant Students, 2019-20**

	California		Michigan		New York	
	Public, four-year	Community colleges	Public, four-year	Community colleges	Public, four-year	Community colleges
Cost of attendance	\$29,244	\$22,872	\$26,891	\$17,808	\$28,396	\$23,625
Expected family contribution	\$0	\$0	\$0	\$0	\$0	\$0
Grants	\$17,286	\$8,085	\$16,424	\$6,840	\$12,646	\$8,559
Work	\$8,640	\$8,640	\$6,948	\$6,948	\$8,496	\$8,496
<b>College affordability gap</b>	<b>\$3,318</b>	<b>\$6,147</b>	<b>\$3,519</b>	<b>\$4,020</b>	<b>\$7,254</b>	<b>\$6,570</b>

Note: First-time, full-time students

Source: Author's calculations from National Center for Education Statistics (2023b)

While both California and New York have among the most generous state aid programs in the nation as measured by spending per capita, California's Cal Grant program offers larger grants than New York's Tuition Assistance Program. In 2019-20, the Cal Grant program offered a maximum grant of \$14,226, with the bulk of this money earmarked for tuition alone (not living expenses), while New York's grants topped out at \$5,165 (National Association of State Student Grant and Aid Programs, 2023a). As noted earlier, Michigan is nearer the bottom of the states on spending on grant aid, and the Michigan Competitive Scholarship had a maximum of \$1,000 that year.<sup>10</sup>

These averages, however, mask what is a wide range of college affordability gaps within each state. For example, the gap among four-year institutions in California (with an average of \$3,318) ranges from a high of \$7,886 (Cal State Poly-Pomona) to a low of -\$1,092 (UC-Irvine), meaning that the students from the lowest-income backgrounds at UC-Irvine in this simulation would actually have had resources (from grant aid and work) that exceeded their cost of attendance.

Table 1b (pg. 8) shows the same information for students who received a Pell Grant but at a level below the maximum. The college affordability gaps for these students are generally higher than for students who received the maximum Pell Grant. While they faced similar costs of attendance as students from low-income backgrounds and had some resources of their and their families' own to contribute to their college costs (from approximately \$1,600 to \$1,900 depending on the state and sector), they on average received less grant aid.

**Table 1b: College Affordability Gap Component Averages for Other Pell Grant Students, 2019-20**

	California		Michigan		New York	
	Public, four-year	Community colleges	Public, four-year	Community colleges	Public, four-year	Community colleges
Cost of attendance	\$29,466	\$22,987	\$26,824	\$17,931	\$27,912	\$22,399
Expected family contribution	\$1,693	\$1,644	\$1,895	\$1,733	\$1,624	\$1,674
Grants	\$14,734	\$6,508	\$11,949	\$5,244	\$8,762	\$5,906
Work	\$8,640	\$8,640	\$6,948	\$6,948	\$8,496	\$8,496
<b>College affordability gap</b>	<b>\$4,399</b>	<b>\$6,195</b>	<b>\$6,032</b>	<b>\$4,006</b>	<b>\$9,030</b>	<b>\$6,323</b>

Note: First-time, full-time students

Source: Author's calculations from National Center for Education Statistics (2023b)

Once again, the gap that these students faced depended on which institution they attended. In New York, for example, where the average gap in public four-year universities was \$9,030, it ranged from a low of \$4,257 (SUNY Fredonia) to a high of \$14,971 at the College of Staten Island.

Tables 2a and 2b (pg. 9) show the same information for the 2020-21 academic year. While the calculated gaps are similar to the prior year, there is one difference that stands out among the maximum Pell Grant students (Table 2a). The gap for students in Michigan's four-year universities grew 38 percent, from \$3,519 in 2019-20 to \$4,871 in 2020-21. The major reason for this change was a large increase in the cost of attendance for these students (\$1,020), split between tuition increases and other expenses (room and board, books and supplies, and other expenses). The four-year universities in Michigan increased their tuition prices by an average of 2 percent between 2019-20 and 2020-21, and increased other, non-tuition costs by 5 percent. There was also a small reduction in the average grant aid received by Michigan students (\$332).

**Table 2a: College Affordability Gap Component Averages for Maximum Pell Grant Students, 2020-21**

	California		Michigan		New York	
	Public, four-year	Community colleges	Public, four-year	Community colleges	Public, four-year	Community colleges
Cost of attendance	\$29,829	\$23,914	\$27,911	\$17,983	\$28,916	\$25,074
Expected family contribution	\$0	\$0	\$0	\$0	\$0	\$0
Grants	\$16,822	\$8,771	\$16,092	\$7,232	\$12,920	\$8,600
Work	\$9,360	\$9,360	\$6,948	\$6,948	\$9,000	\$9,000
<b>College affordability gap</b>	<b>\$3,647</b>	<b>\$5,783</b>	<b>\$4,871</b>	<b>\$3,803</b>	<b>\$6,996</b>	<b>\$7,474</b>
Change from 2019-20	10%	-6%	38%	5%	-4%	14%

Note: First-time, full-time students

Source: Author's calculations from National Center for Education Statistics (2023b)

There are few changes in the gaps for other Pell Grant recipients, shown in Table 2b. None of the gaps changed more than plus or minus 7 percent from the prior year. One contrast between the maximum Pell and other Pell students in Michigan was that the latter group did not see as large an increase in their college affordability gap as did the former.

While both groups saw roughly similar increases in their cost of attendance, the maximum Pell students saw a small decrease of \$332 in their grant aid as noted above, while the other Pell students saw an increase of almost \$600, or 5 percent, in their grant aid. While it is impossible to tell from the data the specific reasons behind this change, it is evident that the four-year universities increased grant aid to the other Pell students as compared to the maximum Pell students between these two years.

**Table 2b: College Affordability Gap Component Averages for Other Pell Grant Students, 2020-21**

	California		Michigan		New York	
	Public, four-year	Community colleges	Public, four-year	Community colleges	Public, four-year	Community colleges
Cost of attendance	\$30,087	\$24,072	\$27,800	\$18,206	\$28,253	\$23,472
Expected family contribution	\$1,666	\$1,641	\$1,868	\$1,745	\$1,596	\$1,682
Grants	\$14,570	\$7,152	\$12,544	\$5,502	\$9,037	\$6,114
Work	\$9,360	\$9,360	\$6,948	\$6,948	\$9,000	\$9,000
<b>College affordability gap</b>	<b>\$4,491</b>	<b>\$5,919</b>	<b>\$6,440</b>	<b>\$4,011</b>	<b>\$8,620</b>	<b>\$6,676</b>
Change from 2019-20	2%	-4%	7%	0%	-5%	6%

Note: First-time, full-time students

Source: Author's calculations from National Center for Education Statistics (2023b)

### Funding Required to Close the College Affordability Gap

These data allow us to calculate the total college affordability gap in each state, or a measure of the amount of additional funding the states would require to provide enough resources for every Pell Grant-eligible student to attend college without borrowing or working excessive hours. This additional funding could be provided through a combination of sources, including:

- the states' existing need-based financial aid programs;
- institutional grant programs;
- broadening the existing partnership with the federal government, through expansion of the existing federal Title IV grant programs (such as Pell and Supplemental Educational Opportunity Grants) or creation of a new program;
- a partnership with private sources, including foundations; or
- a combination of the above.

While the goal of this analysis is to calculate the amount of funding required to eliminate student loan borrowing for Pell-eligible students, some students may still decide to take out some student loans rather than working the number of hours assumed in this analysis. This would be an individual choice for every student, but the goal of the analysis is to calculate the funding required to allow students to graduate debt-free if they were willing to work a reasonable number of hours to help finance their education.

Before providing the estimates, there are three primary limitations to the data that are worth noting. First, as stated earlier, the estimates of grant awards and aid recipients in each income category at each institution are based on only those students who are eligible for and receive federal Title IV funding. So there could be some students in these income categories who *did not* receive federal financial aid, and if so, their college affordability gaps would not be included in these numbers.

However, NCES has another survey, the National Postsecondary Student Aid Study (NPSAS), which provides student-level data on how much postsecondary enrollees pay for college and the assistance they receive in doing so (National Center for Education Statistics, 2023c). Using data from the most recent wave of the survey, from the 2015-16 academic year, I looked at the percentages of students in different income groups who received federal Title IV aid. The appendix provides more information about how the NPSAS data were used to inform this study.

The Integrated Postsecondary Education Data System (IPEDS) data used in this study include the majority of students in these three income categories attending college. Because the data do not include *all* students potentially eligible for a Pell Grant, the estimates shown here are biased somewhat downward but can be used as the basis for estimating the impact on the students who are enrolled but not receiving federal aid.

The second limitation is that these data represent first-time, full-time students only. Without examining the individual financial aid files from each institution, it is impossible to know whether these freshmen students are representative of *all* undergraduates at their universities. We know from other studies that in at least some ways they are not. For example, part-time students are less likely to receive a Pell Grant than are full-time enrollees, and students further along in their studies are less likely to receive one (Kelly, Holian, and Archer, 2019).

We do know from the IPEDS data that across the three states, over 98 percent of first-time students in four-year institutions attended full time. Community college students are less likely to attend college full time; in the 2019-20 academic year, the percentages attending community college full time among the first-time students in the three states were: California, 57 percent; Michigan, 54 percent; and New York, 89 percent.

The third limitation of the data is that they do not include students who would like to attend college but chose not to because of the financial barriers they faced (or enrolled only part time, rather than full time, because of cost barriers). As described earlier, the literature provides much evidence that financial barriers prevent some students from attending college and persisting through to a degree once enrolled.

It is beyond the scope of this report to estimate how many students in each state fall into this category, but the estimates of the total college affordability gaps provided here can be seen as a floor for the amount of funding needed. Additional funding would of course be necessary to meet the financial needs of those students who are currently eligible to and interested in enrolling in college, but do not because of the financial barriers.

With these caveats, Tables 3a (pg. 11) and 3b (pg. 12) present an estimate of the additional funding required to close the college affordability gap for those enrolling in college as first-year students in the 2019-20 and 2020-21 academic years, respectively.

**Table 3a: Funding Necessary to Close the College Affordability Gap, 2019-20**

	Maximum Pell Grant students			Other Pell Grant students			All (millions)
	Average gap	# of students	Total gap (millions)	Average gap	# of students	Total gap (millions)	
CA four-year	\$3,318	23,520	\$78.0	\$4,399	23,677	\$104.2	\$182.2
CA comm. colleges	\$6,147	36,145	\$222.2	\$6,195	20,635	\$127.8	\$35.0
<b>CA total</b>	<b>\$300.2</b>			<b>\$232.0</b>			<b>\$532.2</b>
MI four-year	\$3,519	5,333	\$18.8	\$6,032	6,283	\$37.9	\$56.7
MI comm. colleges	\$4,020	5,410	\$21.7	\$4,006	3,054	\$12.2	\$34.0
<b>MI total</b>	<b>\$40.5</b>			<b>\$50.1</b>			<b>\$90.6</b>
NY four-year	\$7,254	15,861	\$115.1	\$9,030	12,097	\$109.2	\$224.3
NY comm. colleges	\$6,570	18,637	\$122.4	\$6,323	11,047	\$69.9	\$192.3
<b>NY total</b>	<b>\$237.5</b>			<b>\$179.1</b>			<b>\$416.6</b>

Note: Totals may not sum to individual cells due to rounding. Estimates are based on the 2019-20 enrollment patterns for first-time, full-time students.

Source: Author's calculations from National Center for Education Statistics (2023b)

In California, for example, the state would need to provide \$532 million based on the data from the 2019-20 academic year to close the gap for all enrolled Pell-eligible first-year, full-time students. Michigan would need to provide nearly \$91 million in additional funding and New York more than \$416 million. A big driver of the difference between Michigan and the two other states is the sheer size of public higher education enrollments in the latter two. While Michigan had a total of just over 20,000 first-time, full-year Pell-eligible students in the 2019-20 school year as shown in table 3a, California had more than five times this number and New York almost three times as many.

One important note regarding Michigan is that new financial aid initiatives implemented in the last few years are not reflected in the data shown here. Since 2020, Michigan has invested hundreds of millions in new financial aid programs, among which are Michigan Reconnect—which provides free in-district community college tuition to students 25 and older—and the Michigan Achievement Scholarship, which provides a maximum of \$5,500 per year for up to five years to the Class of 2023 and beyond. In the most recent budget, the state doubled down on these investments by increasing Michigan Achievement funding from \$250 to \$300 million as well as increasing Reconnect funding of \$55 million by an additional \$70 million to accommodate the lowering of the age of eligibility for Reconnect from 25 to 21.

While these historic investments have provided strong incentives to boost enrollment and have eliminated gaps in financial aid opportunities across a student's lifetime, benefit limitations, a lack of awareness of the programs, and a general lack of interest in higher education has curbed their impact.

As of July 2023, less than half of the high school graduating class of 2023 had completed a FAFSA, despite completion rates marginally improving this year, up to 49.5 percent from 47.3 percent at the same time last year (Michigan College Access Network, 2023). For the most recent year we have data, Reconnectors spent only \$14 million of the appropriated \$55 million allocated to the program (Michigan Department of Labor and Economic Opportunity, 2022).

While the state is investing the dollars to improve college affordability, there is continued stagnation in enrollment, low program take-up, and aid going unused, indicating a need to design these programs

differently. Rather than further increasing investment, Michigan should look to amending its current programs to make its current investments more impactful for students.

Table 3b presents the same estimates for the 2020-21 academic year. The first thing to note is that enrollment in these three states, and in both sectors and all income categories, fell quite precipitously in 2020-21 from the previous year, mirroring the national trends noted earlier. Enrollment of first-year, full-time Pell Grant recipients in California's community colleges fell 32 percent in the fall of 2020 as compared to a year earlier, a decline far in excess of the national total of a 19 percent decline. Both Michigan and New York saw community college enrollment declines of over 25 percent, also exceeding the national totals.

**Table 3b: Funding Necessary to Close the College Affordability Gap, 2020-21**

	Maximum Pell Grant students			Other Pell Grant students			All (millions)
	Average gap	# of students	Total gap (millions)	Average gap	# of students	Total gap (millions)	
CA four-year	\$3,647	21,302	\$77.7	\$4,491	21,875	\$98.2	\$175.9
CA comm. colleges	\$5,783	23,144	\$133.8	\$5,919	15,204	\$90.0	\$223.8
<b>CA total</b>	<b>\$211.5</b>			<b>\$188.2</b>			<b>\$399.8</b>
MI four-year	\$4,871	4,705	\$22.9	\$6,440	5,557	\$35.8	\$58.7
MI comm. colleges	\$3,803	3,773	\$14.3	\$4,011	2,474	\$9.9	\$24.3
<b>MI total</b>	<b>\$37.3</b>			<b>\$45.7</b>			<b>\$83.0</b>
NY four-year	\$6,996	13,660	\$95.6	\$8,620	11,034	\$95.1	\$190.7
NY comm. colleges	\$7,474	13,031	\$97.4	\$6,676	8,155	\$54.4	\$151.8
<b>NY total</b>	<b>\$193.0</b>			<b>\$149.6</b>			<b>\$342.5</b>

Note: Totals may not sum to individual cells due to rounding. Estimates are based on the 2019-20 enrollment patterns for first-time, full-time students.

Source: Author's calculations from National Center for Education Statistics (2023b)

The drop in enrollment helped drive down the total college affordability gap in the three states in 2020-21 from the prior year, helping offset the modest increases in most of the states and sectors in the gap faced by the average student. The total gap for California decreased 25 percent, while in Michigan and New York the declines were 8 percent and 18 percent, respectively.

This drop in the affordability gap, however, should not be construed as a policy "success." State policies should strive to accommodate all students who wish to enroll in postsecondary education to meet state goals for building a talented workforce.

The National Student Clearinghouse (2023a) data show that enrollment rebounded in the fall of 2021 and 2022. While they have not rebounded to pre-pandemic levels, these trends confirm the anomalous nature of the 2020-21 academic year. Thus, the analysis going forward will use the 2019-20 pre-pandemic year as the baseline.

To update the gap numbers from Table 3a to estimate the total college affordability gap facing each state today, two factors need to be taken into account: 1) the increase in prices from September 2019 to today; and 2) adjusting for the entire population of undergraduate students. While the former adjustment is very straightforward, the latter is more complicated. The primary issue is the assumption to be made regarding how long it takes to complete a degree.

Again, there is a wide body of research that has examined the degree-completion trajectory of college students, including looking at different social, academic, and financial characteristics of the students and how these affect whether they earn a degree and how long it takes them to do so. From this research, we know that controlling for other factors, students' financial circumstances are strongly related to whether they earn a degree or not, and how long it takes do so. Students from higher-income backgrounds are more likely to earn a postsecondary credential and to do so faster than students from low-income backgrounds (Pretlow, Jackson, and Bryan, 2020; Bound, Lovenheim, and Turner, 2010; Chen, Caves, Pretlow, Caperton, Bryan, and Cooney, 2020).

The impact of poverty on degree completion is multifaceted. Certainly, students with fewer financial resources are going to struggle to stay enrolled in college in face of the affordability gaps documented here. But students from low-income backgrounds are also more likely to have weaker academic preparation, which also impacts whether a student will earn a degree or not (Chingos, 2018).

This is because they are more likely to have lived in cities or rural areas, or specific neighborhoods within these communities, that have under-resourced elementary and secondary schools. These schools are less likely to have teachers qualified in their subject matters, pay lower teacher salaries (and thus less likely to attract the best teachers), and lower budgets for curricular materials, supplies, educational enrichment, and the like (Carter and Welner, 2013).

There is also evidence that giving students a promise that all of their college costs will be met will entice students who currently do not enroll in postsecondary education to attend, or to attend a more expensive institution such as a four-year university rather than a community college (Heller, 2006). Thus, it is impossible to determine exactly what the impact on college enrollment and persistence would be if a promise was made to students from low-income backgrounds that all of their college costs will be met without loans. However, some informed estimates can be calculated.

Table 4 (pg. 14) presents four different budget scenarios with cost estimates for each. For each estimate, I first inflated the average gap numbers shown in Table 3a by 5 percent, roughly the increase in community college (4.3 percent) and four-year, public university (5.9 percent) prices between the 2019-20 academic year and 2022-23 (Ma and Pender, 2022). Then, with these inflated cost estimates, I provide four scenarios:

1. **On-time graduation:** Funding necessary to close the affordability gap in the three states for the 2019-20 levels of enrollment of maximum-Pell and other-Pell students, with these students graduating on time (four years in four-year institutions and two years in community colleges).
2. **Longer graduation time:** These students take longer to graduate, completing a degree in an average of five years at four-year institutions and three years at community colleges.
3. **On-time graduation plus enrollment increase:** Funding necessary to close the affordability gap in the three states for the 2019-20 level of enrollment of maximum-Pell and other-Pell students, plus an additional 10 percent enrollment in each group, with the assumption that a promise of meeting the full college cost needs will draw additional students into college (either students currently not enrolling, or enrolling in college at a private institution or out of state) as well as funding students already enrolled but not yet receiving federal aid. Students will graduate on time.
4. **Longer graduation time plus enrollment increase:** The enrollment increase in scenario 3, plus these students graduate in an average of five years at four-year universities and three years at community colleges.

**Table 4: Four Budget Scenarios for Closing the Affordability Gap (\$ millions)**

	1: On-time graduation	2: Longer graduation time	3: On-time graduation + 10% enrollment increase	4: Longer graduation + 10% enrollment increase
CA four-year	\$765	\$957	\$842	\$1,052
CA comm. colleges	\$735	\$1,103	\$809	\$1,213
<b>CA total</b>	<b>\$1,500</b>	<b>\$2,059</b>	<b>\$1,650</b>	<b>\$2,265</b>
MI four-year	\$238	\$297	\$262	\$327
MI comm. colleges	\$71	\$107	\$78	\$118
<b>MI total</b>	<b>\$309</b>	<b>\$405</b>	<b>\$340</b>	<b>\$445</b>
NY four-year	\$942	\$1,178	\$1,036	\$1,295
NY comm. colleges	\$404	\$606	\$444	\$666
<b>NY total</b>	<b>\$1,346</b>	<b>\$1,783</b>	<b>\$1,480</b>	<b>\$1,962</b>

*Note: Totals may not sum to individual cells due to rounding.*

*Source: Author's calculations from National Center for Education Statistics (2023b)*

While the sums shown in Table 4 may appear to be quite large—ranging from a low of \$309 million for scenario 1 in Michigan, to a high of over \$2 billion for scenario 4 in California, they are more reasonable when examined in the context of the current spending of these three states on higher education appropriations, including funding directly to institutions as well as spending on state financial aid. For example, in FY 2022 (the most recent data available, covering the 2021-22 academic year), the state of California appropriated a total of \$23.7 billion to public institutions and state financial aid (State Higher Education Executive Officers Association, 2023). Funding for the four scenarios in Table 4 would represent an increase of from 6 percent to 10 percent above California's FY 2022 level of spending.

For Michigan, the four scenarios would require an increase in funding of from 10 percent to 14 percent over its \$3.1 billion FY 2022 level of spending, and New York would require an increase of 19 percent to 28 percent over its \$7.1 billion spending for FY 2022. And these percentages assume that the state would bear the entire burden for closing the affordability gap; the potential cost sharing with the federal government and private sources, as well as the institutions themselves, could reduce these marginal increases.

It is important to note that even scenario 4, which assumes a 10 percent increase in enrollment and a longer graduation time for students, may be a low estimate. These estimates are based on the enrollment of full-time students at each institution, and as noted earlier, community colleges have many students who enroll part time (and are not included in these analyses). It is likely that many of these students, even with a promise of having their affordability gaps lowered or eliminated entirely, would still enroll part time due to family demands or other constraints. It is important that funding would be provided to eliminate the affordability gaps for these students as well.

### Conclusion

Our society has long considered postsecondary education to be a vehicle for equalizing opportunity among disparate groups. When President Lyndon Baines Johnson signed into law the Higher Education Act of 1965 in the gymnasium of Southwest Texas State College—the college where he had received his own college degree 35 years earlier—he stated:

*To thousands of young men and women, this act means the path of knowledge is open to all that have the determination to walk it. It means a way to deeper personal fulfillment, greater personal productivity, and increased personal reward. This bill, which I will make law, is an incentive to stay in school. It means that a high school senior anywhere in this great land of ours can apply to any college or any university in any of the 50 States and not be turned away because his family is poor (Johnson, 1965).*

While the nation has made progress on fulfilling the promise of the Higher Education Act, we still have a long way to go. The gaps in college enrollment and completion have persisted stubbornly over the last six decades.

A report from the Pell Institute (2022), a non-profit think tank, demonstrated that there was more than a 30-point gap in the college enrollment rate of students from families in the highest income quartile as compared to those in the lowest income quartile. The report found similar gaps in degree completion, with 59 percent of students from the highest income quartile earning a bachelor's degree by age 24, while only 15 percent of those from the lowest quartile were able to do so. Gaps in college enrollment and degree completion across different racial and ethnic groups also exist in the nation. While these gaps tend to be smaller than the income differences and some progress has been made in lessening them over the years, they nevertheless have stubbornly persisted for decades.

As noted earlier, college entry and completion are multifaceted phenomena that are affected by many social, cultural, academic, and economic characteristics of individuals. Eliminating the financial barriers that students from low-income and moderate-income backgrounds face is a necessary, but not in and of itself sufficient, requirement for addressing these gaps in postsecondary educational opportunity.

A starting point for addressing financial barriers is to have some understanding of the magnitude of the problem. This report accomplishes this by using data from the National Center for Education Statistics to estimate the magnitude of this gap in three states. While the numbers are large, they are not out of scale with what these states are currently investing in their postsecondary educational systems.

It is also important that additional state, federal, and private investments in higher education are done in a manner that maximizes the impact on students from low- to moderate-income backgrounds and students of color, those groups that have—as noted throughout this report—historically been the most disadvantaged in college and university enrollment, persistence, and degree completion. This means that those investments need to be targeted to these students and to the institutions they are most likely to attend.

For example, students from higher-income backgrounds attending public institutions in most states tend to disproportionately enroll in the most selective institutions, typically the state flagship universities, while students from lower-income backgrounds tend to enroll in states' regional institutions. Thus, investing state appropriations in flagship universities is likely to have little impact on addressing the equity gaps described in this report; the funds instead should be invested in regional institutions, which generally are already funded at lower levels than flagship universities.

Similarly, federal, state, and institutional financial aid programs need to be designed in ways that prioritize students with the most financial need. This is best accomplished by using financial means testing in the awarding of grant aid, rather than awarding the money based solely on measures of academic merit, which tends to benefit students from higher-income backgrounds.

It is unlikely that any one state would attempt to address the problem in a single state budget cycle. But setting a goal of addressing the college affordability gap over some number of years, with incremental progress to be made in each year, may make the effort more amenable to policymakers. Extending the effort by strengthening and expanding the partnership between states and the federal government, as well as bringing in private organizations, could help achieve the goal even sooner. It would also ensure its sustainability through both positive and constrained state budgets.

### Acknowledgements

The Institute for College Access & Success (TICAS) is a trusted source of research, design, and advocacy for student-centered public policies that promote affordability, accountability, and equity in higher education. To learn more about TICAS, visit [ticas.org](http://ticas.org) and follow us on Twitter and Instagram: @TICAS\_org.

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## Appendix

### Notes on Methodology

To conduct the analyses, I used data from the National Center for Education Statistics (NCES), a unit of the U.S. Department of Education, collected from the nation's over 6,000 postsecondary institutions that qualify for the government's Title IV student aid programs. The primary data source is the Integrated Postsecondary Education Data System (IPEDS). The IPEDS data include information from several surveys about enrollment, student charges, financial aid provided, and other data about the institutions and their students. The detailed financial aid data focuses on those students who are first-time college enrollees and who are attending full time.

To examine data on expected family contributions, the IPEDS data were supplemented with data from the National Postsecondary Student Aid Study of 2015-16 (NPSAS), another NCES survey. The NPSAS data were used to confirm the earlier assumption that students in the lowest income group (\$0 to \$30,000) had approximately a zero EFC. Students in this group in the 2015-16 NPSAS survey (with income groups deflated by inflation from the 2019-20 and 2020-21 income categories) had an average EFC of under \$75 in both the public, four-year and community college sectors in these three states.

The cost of attendance that colleges report to NCES is made up of four components: tuition and fees; living expenses, or room and board; books and supplies; and other expenses. For students attending four-year institutions, I used each university's reported cost of attendance for in-state students residing on campus. For community colleges, I used the cost of attendance for those students living off campus but not with their families.

Using the change in the Consumer Price Index to deflate the five income categories shown on page 6, I used the NPSAS data to estimate the percentage of undergraduates from California, Michigan, and New York in income categories one through three who attended college in their home state and who received some form of federal student aid. For the lowest income category, those I have labeled maximum Pell Grant recipients, 95 percent of students in four-year universities received federal aid and 64 percent of community college students did as well. For income categories two and three, 83 percent of four-year students and 44 percent of community college students received federal aid.

A lower percentage of community college students receive federal aid for two primary reasons. First, a higher percentage of community college students attend part time, as compared to students in four-year universities. Part-time enrollment, if below a particular threshold, can prohibit students from receiving federal grant aid. Second, many community college students, even if attending at an intensity level that would make them eligible for federal aid, never file the Free Application for Federal Student Aid (FAFSA). Another recent TICAS study reported that in California alone, "...there was approximately \$435 million of unclaimed Pell Grant aid in 2022" (The Institute for College Access & Success, 2023).

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## Endnotes

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- <sup>1</sup> The focus of this report is on undergraduate students only. The college price figures shown in figure 1 are for students living on campus.
- <sup>2</sup> This is often referred to as “scholarships” by institutions and states. For the sake of brevity, I will refer to any form of student financial assistance that does not have to be repaid by the student or have a work requirement as “grant” aid.
- <sup>3</sup> The IPEDS finance data do not distinguish between grant spending to undergraduates versus graduate students, so these figures are for grants awarded to all students in public universities.
- <sup>4</sup> The correlation between the two series is 0.68.
- <sup>5</sup> “A generation hobbled by the soaring cost of college,” (Martin and Lehren, 2012) tells the story of a woman who earned a bachelor’s degree from a private college in Ohio, amassed \$120,000 in student loan debt, and was working two restaurant jobs to try to pay back the loans.
- <sup>6</sup> More information about the data and methodology can be found in the Appendix.
- <sup>7</sup> In both academic years, the data on federal student aid awarded to full-time, first-time students include federal pandemic relief funds that were passed through directly from universities to students (National Center for Education Statistics, 2021).
- <sup>8</sup> More information about the methodology used in these calculations can be found in the appendix.
- <sup>9</sup> See for example Triventi (2014) and Bozick (2007).
- <sup>10</sup> The figures for Michigan do not reflect the Michigan Achievement Scholarship, created in 2022, which will increase the state’s investment in grant aid by \$250 million, with the money targeted at students from low- and moderate-income families (Michigan Student Aid, 2023).